Please replace the paragraph beginning on page 4, line 9 with the following rewritten paragraph:

B4

The laminated piezoelectric element 100, as shown in Fig. 34, has problems in that the possibility that edges of the green sheets 101A (shown in Fig. 35) are deformed, damaged, or broken by handling is high. Particularly, a thin piezoelectric element in which a total film thickness (thickness) of the laminate 103 is 100 μ m or less has a high possibility that the green sheets 101A are broken by handling. The conventional laminated piezoelectric element 100, thus, has a problem that the fabrication yield is low.

Please replace the paragraph beginning on page 5, line 4 with the following rewritten paragraph:

B5

In order to solve the above problems, the first feature of the invention lies in a piezoelectric/electrostrictive element including a substantially trapezoidal laminate having narrower and wider surfaces lying substantially in parallel to each other and first and second surfaces opposed to each other between the narrower and wider surfaces. The first and second surfaces are inclined at given angles with respect to one of the narrower and wider surfaces. The trapezoidal laminate is made up of a plurality of piezoelectric/electrostrictive layers and a plurality of internal electrodes, each of which is disposed between an adjacent two of the piezoelectric/electrostrictive layers. The internal electrodes are divided into a first and a second group, each of the first group internal electrodes lying over one of the second group internal electrodes through one of the piezoelectric/electrostrictive layers. A first external electrode is formed on the first surface

B5 cont.

of the laminate, and is coupled to the first group internal electrodes. A second external electrode is formed on the second surface of the laminate, and is coupled to the second group internal electrodes.

Please replace the paragraph beginning on page 5, line 23 with the following rewritten paragraph:

The thus constructed piezoelectric/electrostrictive element is of a substantially trapezoidal shape which decreases in width from one of the bottom surfaces to the other bottom surface, so that the angle which the slant surfaces of both sides make with the other bottom surface is obtuse, thus resulting in an increase in strength of a ridge portion (a corner) defined by the other bottom surface and the slant surfaces. Therefore, for example, when the other (narrower) bottom surface is secured on a movable plate (diaphragm), the breakage or damage of the ridge portion caused by an external force or vibrations of the piezoelectric/electrostrictive element itself is avoided. When the other bottom surface of the piezoelectric/electrostrictive element is secured on the movable plate (diaphragm) by adhesive, a recess-shaped (*V*-groove shaped) gap defined by the movable plate and the slant surfaces of both the sides of the piezoelectric/electrostrictive element can be filled with the adhesive, thereby resulting in a further increase in force (bonding strength) which secures the piezoelectric/electrostrictive element to the movable plate. The existence of the adhesive in the recess-shaped gap offers the effect of avoiding removal of the piezoelectric/electrostrictive element from the movable plate even if the stress arising from a difference in thermal expansion between the piezoelectric/electrostrictive element and the movable plate is produced.

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Please replace the paragraph beginning on page 6, line 20 with the following rewritten paragraph:

B5 cont.

The piezoelectric/electrostrictive layers are decreased in width gradually in one of the directions of lamination. Thus, for example, when the external electrode layers, the piezoelectric/electrostrictive layers, and the internal electrode layers are laminated in a given order, it is possible to pile up the piezoelectric/electrostrictive layers on a backing layer stably. Therefore, when the external electrode layers, the piezoelectric/electrostrictive layers, and the internal electrode layers are laminated by printing using, for example, a screen printing method, the printing is achieved easily since a lower one of the piezoelectric/electrostrictive layers has an area greater than that of an upper one of the piezoelectric/electrostrictive layers. The screen printing method makes it possible to apply, for example, via a conductive paste, the external electrode layers to the slant surface (a side surface portion) of the laminate.

Please replace the paragraph beginning on page ~~6~~ 7, line 9 with the following rewritten paragraph:

Both the external electrode layers formed on the side surface portions extend along the wider surface of said laminate, thereby ensuring a joint area (a pad portion) which establishes a joint of wires for applying a drive voltage to the external electrode layers or wires for detecting a produced voltage, which facilitates connection of the wires. Particularly, as described above, when the narrower bottom surface of the laminate is secured on the movable plate, it is possible to bond the wires on a sufficient area of the wider bottom surface. The width of one of the external electrode layers extending on the

B5 concl'd.

wider bottom surface of the laminate is greater, thereby allowing the one of the external electrode layers to be used as a voltage applying electrode or a voltage detecting electrode.

Please replace the paragraph beginning on page 8, line 1 with the following rewritten paragraph:

B6

The second feature of the invention lies in a piezoelectric/electrostrictive device in which a piezoelectric/electrostrictive element includes a substantially trapezoidal laminate having narrower and wider surfaces lying substantially in parallel to each other and first and second surfaces opposed to each other between the narrower and wider surfaces. The first and second surfaces are inclined at given angles with respect to one of the narrower and wider surfaces. The trapezoidal laminate is made up of a plurality of piezoelectric/electrostrictive layers and a plurality of internal electrodes, each of which is disposed between an adjacent two of the piezoelectric/electrostrictive layers. The internal electrodes are divided into a first and a second group, each of the first group internal electrodes lying over one of the second group internal electrodes through one of the piezoelectric/electrostrictive layers. A first external electrode is formed on the first surface of the laminate, and is coupled to the first group internal electrodes. A second external electrode is formed on the second surface of said laminate, and is coupled to the second group internal electrodes. The piezoelectric/electrostrictive element is bonded to a surface of a movable plate on a side of the narrower surface of the laminate.

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Please replace the paragraph beginning on page 10, line 11 with the following rewritten paragraph:

B7

The third feature of the invention lies in a method of producing a piezoelectric/electrostrictive element including the following steps:

a first step of preparing a ceramic substrate having a given width;

a second step of forming a laminate on the ceramic substrate, the laminate being made up of first and second portions laid to overlap one another;

a third step of baking the ceramic substrate and the laminate at a given temperature; and

a fourth step of removing the laminate from the ceramic substrate;

the first portion of the laminate is formed using the following steps:

printing a first electrode layer and a second electrode layer on the ceramic substrate which are disposed at a given interval away from one another;

forming a piezoelectric/electrostrictive layer using a piezoelectric/electrostrictive paste on the first and second electrode layers so as to cover portions of the first and second electrode layers other than edge portions thereof lying outward in a widthwise direction of the ceramic substrate; and

forming a first electrode layer on an upper surface and a side surface of the piezoelectric/electrostrictive layer so as to establish an electric connection only with the first electrode layer lying immediately beneath the first electrode layer formed in this step.

The second portion of the laminate is formed by performing the following set of steps a given number of times, which include:

B7 cmcl'd.

forming a piezoelectric/electrostrictive layer using a piezoelectric/electrostrictive paste on an uppermost one of the first electrode layers, the piezoelectric/electrostrictive layer formed in this step having a width smaller than that of the piezoelectric/electrostrictive layer lying immediately beneath the piezoelectric/electrostrictive layer formed in this step;

forming a second electrode layer on an upper surface and a side surface of an uppermost one of the piezoelectric/electrostrictive layers so as to establish an electric connection only with the second electrode layer lying immediately beneath the second electrode layer formed in this step;

forming a piezoelectric/electrostrictive layer using a piezoelectric/electrostrictive paste on an uppermost one of the second electrode layers, the piezoelectric/electrostrictive layer formed in this step having a width smaller than that of the piezoelectric/electrostrictive layer lying immediately beneath the piezoelectric/electrostrictive layer formed in this step; and

forming a first electrode layer on an upper surface and a side surface of an uppermost one of the piezoelectric/electrostrictive layers so as to establish an electric connection only with the first electrode layer lying immediately beneath the first electrode layer formed in this step.

Please replace the paragraph beginning on page 12, line 8 with the following rewritten paragraph:

B8

In the method of producing the thus constructed piezoelectric/electrostrictive element according to the third feature, it is possible to pile up the

piezoelectric/electrostrictive layers by printing so that areas thereof decrease gradually, thus resulting in ease of manufacture. The piezoelectric/electrostrictive layers, the first electrode material layer, and the second electrode material layer may be formed using a printing method, thus allowing a piezoelectric/electrostrictive element to be produced which is higher in dimensional accuracy, positional accuracy, less susceptible to adverse effects, such shifting during transportation and deformation caused by the transportation, and eliminating the need for process of transporting and piling up the piezoelectric/electrostrictive layers, which avoids breakage or damage of the piezoelectric/electrostrictive layers caused by handling thereof.

B8

Please replace the paragraph beginning on page 12, line 23 with the following rewritten paragraph:

The formation of portions which become continuous external side surface electrodes on both sides of the laminate is achieved in sequence by repeating printing of the first and second electrode material layers, thus eliminating the need for a process of forming additional external side surface electrodes.

Please replace the paragraph beginning on page 13, line 15 with the following rewritten paragraph:

B9

The fourth feature of the invention lies in a method of producing a piezoelectric/electrostrictive device in which a piezoelectric/electrostrictive element includes a substantially trapezoidal laminate having narrower and wider surfaces lying substantially in parallel to one another and first and second surfaces opposed to one

another between the narrower and wider surfaces. The first and second surfaces are inclined at given angles with respect to one of the narrower and wider surfaces. The trapezoidal laminate is made up of a plurality of piezoelectric/electrostrictive layers and a plurality of internal electrodes, each of which is disposed between an adjacent two of the piezoelectric/electrostrictive layers. The internal electrodes are broken up into a first and a second group, each of the first group internal electrodes lying over one of the second group internal electrodes through one of the piezoelectric/electrostrictive layers. A first external electrode is formed on the first surface of the laminate and is coupled to the first group internal electrodes. A second external electrode is formed on the second surface of the laminate and is coupled to the second group internal electrodes. The piezoelectric/electrostrictive element is bonded to a surface of a movable plate by an adhesive.

B9 cncl'd.

Please replace the paragraph beginning on page 14, line 22 with the following rewritten paragraph:

B10

The narrower bottom surface of the piezoelectric/electrostrictive element is bonded to the movable plate, so that angles which the side surface portions of the piezoelectric/electrostrictive element make with the movable plate will be obtuse, thus providing the effect of avoiding local breakage or damage of the piezoelectric/electrostrictive element. The same is true for a case where piezoelectric/electrostrictive elements are bonded at narrower bottom surfaces to one another.

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Please replace the paragraph beginning on page 15, line 4 with the following rewritten paragraph:

B10 cmd'd.

Automatic positioning of the piezoelectric/electrostrictive element is achieved by setting a coefficient of viscosity of the adhesive applied on the surface of the movable plate to a given value to enable the filling with adhesive of the gaps (recesses) defined by the slants of the side surfaces of the piezoelectric/electrostrictive element and the movable plate.

Please replace the paragraph beginning on page 18, line 24 with the following rewritten paragraph:

B11

Fig. 33 is a side view which shows a combination of a movable plate positioning jig and an element positioning jig used in a production method of a piezoelectric/electrostrictive device according to the second embodiment of the invention;

Please replace the paragraph beginning on page 19, line 12 with the following rewritten paragraph:

B12

Fig. 39 is an enlarged, partial side view of a conventional piezoelectric/electrostrictive element.

Please replace the paragraph beginning on page 19, line 14 with the following rewritten paragraph:

B13

DETAILED DESCRIPTION OF THE INVENTION

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B13 cancel'd.

A piezoelectric/electrostrictive element, a piezoelectric/electrostrictive device, and a production method thereof will be explained in detail with reference to embodiments as illustrated in the drawings. The attention should be paid to the fact that the drawings are schematic, and the thickness and a film thickness ratio of material layers are different from those in actual use. Practical thickness or dimensions should be decided with reference to the following explanation. Of course, parts whose dimensional relation and ratio are different from one another are included in the several drawings.

Please replace the paragraph beginning on page 19, line 25 with the following rewritten paragraph:

The piezoelectric/electrostrictive element and the piezoelectric/electrostrictive device according to the invention includes an element which converts electric energy into mechanical energy, or vice versa by the reverse piezoelectric effect or the electrostrictive effect, or the piezoelectric effect and a device equipped with the same. The piezoelectric/electrostrictive device of the present invention may be employed as passive elements such as acceleration sensors or impact sensors utilizing the piezoelectric effect, as well as active elements such as a variety of actuators or transducers, especially displacement elements using displacement by the reverse piezoelectric effect or the electrostrictive effect.

Please replace the paragraph beginning on page 20, line 13 with the following rewritten paragraph:

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B14 cont.

First, an outline of a structure of a piezoelectric/electrostrictive element of this embodiment will be described using Figs. 1 to 4. The piezoelectric/electrostrictive element 10 of this embodiment, as shown in Fig. 1, includes, for example, four piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D, for example, three internal electrode layers 12A, 12B, and 12C interposed between an adjacent two of the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D. A pair of external electrode layers 14 and 15 connect the internal electrode layers 12A, 12B, and 12C in an alternate manner alternately. The piezoelectric/electrostrictive element 10 has a substantially trapezoidal laminated structure in which upper and lower opposed bottom surfaces are both rectangular.

Please replace the paragraph beginning on page ~~21~~ 20, line 26 with the following rewritten paragraph:

As shown in Fig. 1, an area of one of the bottom surfaces (upper surface) *f1* of the piezoelectric/electrostrictive element 10 is wider than that of the other bottom surface (lower surface) *f2*. As shown in Fig. 1, the width of the wider bottom surface *f1* (i.e., the length in an arrow direction as expressed by *x* in the drawing) is *W1*, and the length thereof (i.e., the length in an arrow direction as expressed by *y* in the drawing) is *L1*. Fig. 2 is a plan view which shows the wider bottom surface *f1*. Fig. 3 is a bottom illustration of the piezoelectric/electrostrictive element 10 as viewed from the narrower bottom surface *f2*. As shown in Fig. 3, the width of the bottom surface *f2* is *W2*, which is smaller than the width *W1* of the bottom surface *f1*. The length of the bottom surface *f2* is equal to the length *L1* of the bottom surface *f1*.

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Please replace the paragraph beginning on page 21, line 15 with the following rewritten paragraph:

B14 cncl'd.

As can be seen from the bottom illustration of the piezoelectric/electrostrictive element in Fig. 3, both side edges of the bottom surface *f2* are located inward from both side edges of the bottom surface *f1* by the same distance *W3* and overlap with the bottom surface *f1* in a lengthwise direction. The piezoelectric/electrostrictive element 10, thus, has slant surfaces *f3* and *f4*, as shown in Figs. 1 and 3, formed on the sides thereof in the direction *x*. The pair of slant surfaces *f3* and *f4* are inclined in a direction in which they approach each other from the wider bottom surface *f1* to the narrower bottom surface *f2*.

Please replace the paragraph beginning on page 21, line 24 with the following rewritten paragraph:

The external structure of the piezoelectric/electrostrictive element 10 has been explained above. Next, the structure and positional relation of parts making up the piezoelectric/electrostrictive element 10 will be explained in detail using Figs. 1 to 4. Fig. 4 is a cross-sectional view taken along section line *A-A* shown in Fig. 2.

Please replace the paragraph beginning on page 22, line 18 with the following rewritten paragraph:

B15

Between the piezoelectric/electrostrictive layers 11A and 11B, the internal electrode layer 12A is disposed which extends from the slant surface *f3* toward the slant surface *f4*. The internal electrode 12A does not contact the slant surface *f4*. Between the piezoelectric/electrostrictive layers 11B and 11C, the internal electrode layer 12B is

B15 cont.

disposed which extends from the slant surface *f4* toward the slant surface *f3*. The internal electrode 12B does not contact the slant surface *f3*. Between the piezoelectric/electrostrictive layers 11C and 11D, the internal electrode layer 12C is disposed which extends, like the above described internal electrode layer 12A, from the slant surface *f3* toward the slant surface *f4*, and does not contact the slant surface *f4*. It is advisable that the end edges of the above described internal electrodes 12A and 12C on the side of the slant surface *f3* lie at the same location as viewed on a plane and overlap vertically, however, the internal electrode layer 12C may be shorter in the x direction extending from the slant surface *f3*.

Please replace the paragraph beginning on page 23, line 8 with the following rewritten paragraph:

Further, slant portions 14A and 15A of the external electrode layers 14 and 15 are formed on the slant surfaces *f3* and *f4*. In this embodiment, the width of the slant portion 14A (i.e., the length in a direction of slant surface inclination) is greater than that of the slant portion 15A. The slant portion 14A is, as shown in Fig. 4, so formed as to cover the whole of the slant surface *f4*, thereby establishing connection of the slant portion 14A of the external electrode layer 14 to the internal electrode layer 12B. The slant surface portion 15 is formed to establish a connection of the slant portion 15A of the external electrode layer 15 to the internal electrode layers 12A and 12C. Specifically, the external electrode layers 15 and 14 are so constructed as to connect with the internal electrode layers 12A, 12B, and 12C alternately.

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B15 cont.

Please replace the paragraph beginning on page 23, line 20 with the following rewritten paragraph:

On an upper surface (i.e., an outer surface) of the widest piezoelectric/electrostrictive layer 11A, upper surface portions 14B and 15B of the external electrode layers 14 and 15 are, as shown in Figs. 1 and 4, formed which extend from x-direction side edges of the outer surface of the piezoelectric/electrostrictive layer 11A so as to approach one another. The upper surface portions 14B and 15B of the external electrode layers 14 and 15 are separated from one another on the side of one of the edge portions of the piezoelectric/electrostrictive element 10. Specifically, in this embodiment, the width (i.e., the length in the x direction) of the upper surface portion 14B of the external electrode layer 14 is greater than the width of the external electrode layer 15. The edge of the upper surface portion 14B of the external electrode layer 14 on the side of the slant surface *f3* lies at the same location as that of the edge of the above described internal electrode layer 12B as viewed on a plane, but however, it is not limited to this location.

Please replace the paragraph beginning on page 24, line 9 with the following rewritten paragraph:

On a lower surface (i.e., an outer surface) of the narrowest piezoelectric/electrostrictive layer 11D, the lower surface portion 14C of the external electrode layer 14 is formed. The lower surface portion 14C extends from a lower edge of the slant surface 14A toward the slant surface *f3*. An edge of the lower surface portion 14C on the side of the slant surface *f3* is set to lie at the same location as that of an edge of

the internal electrode layer 12B as viewed on a plane, however, it is not limited to this location.

B15 concl'd.

Please replace the paragraph beginning on page 24, line 17 with the following rewritten paragraph:

In this embodiment, the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D are four layers. The internal electrode layers 12A, 12B, and 12C are three layers. The upper surface portion 14B and the lower surface portion 14C of the external electrode layer 14 are so arranged on the upper and lower surfaces of the piezoelectric/electrostrictive element 10 as to function as opposed electrodes, however, the number of the layers and the number of the internal electrode layers connecting with the external electrode layers 14 and 15, respectively, may be equal or unequal number with respect to one another. The number of the electrode layers are determined in terms of relations to a drive voltage and the degree of displacement of a movable plate, as will be described later. An increase in total number of the piezoelectric/electrostrictive layers will cause a driving force driving the movable plate on which the piezoelectric/electrostrictive element 10 is installed to be increased, thus enabling a greater displacement and result in an increase in rigidity of the piezoelectric/electrostrictive element 10, thereby increasing the resonance frequency, which allows the speed of a displacement operation to be increased easily.

Please replace the paragraph beginning on page 27, line 3 with the following rewritten paragraph:

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B16

The external electrode layers 14 and 15 are preferably made of metal which is solid at room temperature and excellent in conductivity. As such a metal, in addition to the above described platinum (Pt), one of aluminum (Al), titanium (Ti), chromium (Cr), iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), zinc (Zn), niobium (Nb), molybdenum (Mo), ruthenium (Ru), palladium (Pd), rhodium (Rh), silver (Ag), tin (Sn), tantalum (Ta), tungsten (W), iridium (Ir), gold (Au), and lead (Pb) or an alloy thereof may be used. A cermet material in which the same material as that of the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D is dispersed in the above materials may be used.

Please replace the paragraph beginning on page 31, line 20 with the following rewritten paragraph:

B17

In a case where the thus constructed piezoelectric/electrostrictive device 20 is used as an active device, wires 23 and 24 may be connected to the upper surface portion 14B of the external electrode layer 14 and the upper surface portion 15B of the external electrode layer 15 formed on the bottom surface *f1*, respectively, and to a voltage applying circuit 25. Such an active device may be employed as transducers, actuators, frequency domain functional parts (filters), transformers, vibrators or resonators for communications or power sources, oscillators, or discriminators. The wires 23 and 24 are provided preferably by a flexible printed circuit (FPC), flexible flat cables (FFC), or bonding wires.

Please replace the paragraph beginning on page 41, line 21 with the following rewritten paragraph:

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B18

Next, a production method of the piezoelectric/electrostrictive element 10 according to the first embodiment will be described below using Figs. 12 to 24. The production method will be discussed while comparing and associating new reference numbers of respective material layers with reference numbers of the piezoelectric/electrostrictive element 10 that is a finished product as shown in Figs. 1 to 4. The method includes the following steps 1-12.

Please replace the paragraph beginning on page 46, line 10 with the following rewritten paragraph:

B19

It is possible for the production method of the piezoelectric/electrostrictive elements 10 to stack the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D in the printing method so as to decrease in area gradually, thus resulting in ease of manufacture of the piezoelectric/electrostrictive elements 10. It is also possible to form the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D and each electrode layer (i.e., the Pt film in this embodiment) in the printing method, thus eliminating the need for handling and transportation. This enables the manufacture of the piezoelectric/electrostrictive elements 10 that are higher in dimensional and positional accuracy without adverse effects such as deformation caused by the handling or the transportation.

Please replace the paragraph beginning on page 55, line 11 with the following rewritten paragraph:

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B30

A production method of a piezoelectric/electrostrictive device which may be employed with the first and second embodiments will be described below using Figs. 28 to 33. The method includes the following steps A-E.

Please replace the paragraph beginning on page 55, line 24 with the following rewritten paragraph:

B21

(C) The piezoelectric/electrostrictive element 10 is set on an element positioning plate 86. The element positioning plate 86 has formed therein a plurality of vacuum openings 87 for fixing in place the piezoelectric/electrostrictive element 10 by use of suction. The piezoelectric/electrostrictive element 10 is set so that the wider bottom surface *f1* may be fixed in place by the suction of vacuum openings 87. The element positioning plate 86 has formed therein guide holes 88 in which guide pins 84 are fitted when combined with the movable plate positioning jig 82. The element positioning plate 86 has also formed therein openings 89 for reception of the positioning pins 35 installed on the movable plate positioning jig 82.

Please replace the paragraph beginning on page 57, line 22 with the following rewritten paragraph:

B22

It should be noted that the discussion and the drawings that are parts of the disclosure of the above described first and second embodiments of the invention do not limit the invention. From this disclosure, one skilled in the art will know alternative various forms of embodiments, embodiments, and working techniques.

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Please replace the paragraph beginning on page 58, line 1 with the following rewritten paragraph:

B23

For instance, the first and second embodiments refer to the cases where the number of the inner electrode layers are three and four, but may be one, two or more, or five or more.

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2. (Amended) A piezoelectric/electrostrictive element as set forth in claim 27~~1~~, wherein said piezoelectric/electrostrictive layers are decreased in width gradually in a~~one~~ ~~of~~ direction~~s~~ of lamination.

4. (Amended) A piezoelectric/electrostrictive element as set forth in claim 27~~3~~, wherein a width of a portion of said first external electrode layer extending on a portion of said wider surface is greater than ~~that~~the width of a portion of said second external electrode layer extending on a portion~~side~~ of said wider surface.

5. (Amended) A piezoelectric/electrostrictive element as set forth in claim 27~~1~~, wherein ~~either of surfaces~~any one of said wider and narrower surfaces in ~~said~~a direction~~s~~ of lamination is the piezoelectric/electrostrictive layer.

6. (Amended) A piezoelectric/electrostrictive element as set forth in claim 27~~1~~, wherein the number of said internal electrode layers connecting with said first external electrode layer is identical with the number~~that~~ of said internal electrode layers connecting with said second external electrode layer.

7. (Amended) A piezoelectric/electrostrictive element as set forth in claim 27~~1~~, wherein the number of said internal electrode layers connecting with said first external electrode layer is different from the number~~that~~ of said internal electrode layers connecting with said second external electrode layer.

9. (Amended) A piezoelectric/electrostrictive device as set forth in claim 28~~8~~, wherein said piezoelectric/electrostrictive element is bonded to said movable plate by

adhesive disposed within ~~a~~at least one gap defined by said first surface and said movable plate, and said second surface~~,~~ and said movable plate.

10. (Amended) A piezoelectric/electrostrictive device as set forth in claim 9, characterized in that a structure formed from~~made up of~~ said piezoelectric/electrostrictive element and said adhesive is trapezoidal or rectangular parallelepipedic.

12. (Amended) A piezoelectric/electrostrictive device as set forth in claim 28~~8~~, wherein said piezoelectric/electrostrictive element is bonded only to one surface of said movable plate.

13. (Amended) A piezoelectric/electrostrictive device as set forth in claim 28~~8~~, wherein said piezoelectric/electrostrictive elements are bonded to ~~both~~two surfaces of the movable plate ~~so as~~ to hold the movable plate therebetween.

14. (Amended) A piezoelectric/electrostrictive device as set forth in claim 28~~8~~, wherein said movable plate ~~is made of~~comprises an insulating material.

15. (Amended) Apiezoelectric/electrostrictive device as set forth in claim 28~~8~~, wherein said movable plate ~~is made of~~comprises a conductive material.

18. (Amended) A piezoelectric/electrostrictive device ~~in which~~comprising a pair of piezoelectric/electrostrictive elements each ~~includes~~including a substantially trapezoidal laminate having narrower and wider surfaces lying substantially in parallel to ~~each other~~one another and first and second surfaces opposed to ~~each other~~one another between

the narrower and wider surfaces, the first and second surfaces being inclined at given angles with respect to one of the narrower and wider surfaces, said laminate ~~being made up of~~comprising a plurality of piezoelectric/electrostrictive layers and a plurality of internal electrodes each of which is disposed between an adjacent two of the piezoelectric/electrostrictive layers, the internal electrodes being ~~broken up~~divided into ~~a~~ first and ~~a~~ second groups, each of the first group internal electrodes lying over one of the second group internal electrodes and being separated by ~~through~~ one of the piezoelectric/electrostrictive layers; a first external electrode formed on the first surface of said laminate, said first external electrode~~s~~ being coupled to the first group internal electrodes; and a second external electrode formed on the second surface of said laminate, said second external electrode~~s~~ being coupled to the second group internal electrodes, ~~and in which~~wherein said piezoelectric/electrostrictive elements are bonded to one another~~each other~~ on sides of the respective narrower surfaces of said laminates.

19. (Amended) A piezoelectric/electrostrictive device as set forth in claim ~~8~~ 28, wherein said first and second external electrode layers are connected to a voltage applying circuit.

20. (Amended) A piezoelectric/electrostrictive device as set forth in claim ~~8~~ 28, wherein said first and second external electrode layers are connected to a voltage detecting circuit.

The paragraph beginning on page 4, line 9 has been amended as follows:

The laminated piezoelectric element 100, as shown in Fig. 34, has problems in that the possibility that edges of the green sheets 101A (shown in Fig. 35) are deformed, damaged, or broken by handling is high. Particularly, a thin piezoelectric element in which a total film thickness (thickness) of the laminate 103 is 100 μ m or less has a high possibility that the green sheets 101A are broken by handling. The conventional laminated piezoelectric element 100, thus, has a problem that the fabrication yield is low.

The paragraph beginning on page 5, line 4 has been amended as follows:

In order to solve the above problems, the first feature of the invention lies in a piezoelectric/electrostrictive element including~~comprising:~~ a substantially trapezoidal laminate having narrower and wider surfaces lying substantially in parallel to each other and first and second surfaces opposed to each other between the narrower and wider surfaces.~~;~~ ~~t~~The first and second surfaces ~~being~~are inclined at given angles with respect to one of the narrower and wider surfaces.~~;~~ ~~said~~ The trapezoidal laminate ~~being~~is made up of a plurality of piezoelectric/electrostrictive layers and a plurality of internal electrodes, each of which is disposed between an adjacent two of the piezoelectric/electrostrictive layers.~~;~~ ~~t~~The internal electrodes ~~being broken up~~are divided into a first and a second group, each of the first group internal electrodes lying over one of the second group internal electrodes through one of the piezoelectric/electrostrictive layers.~~;~~ ~~a~~A first external electrode is formed on the first surface of ~~said~~the laminate, and is~~said first external electrodes being~~ coupled to the first group internal electrodes; and a second

external electrode formed on the second surface of said laminate, said second external electrodes being coupled to the second group internal electrodes.

The paragraph beginning on page 5, line 23 has been amended as follows:

The thus constructed piezoelectric/electrostrictive element is of a substantially trapezoidal shape which decreases in width from one of the bottom surfaces to the other bottom surface, so that the angle which the slant surfaces of both sides make with the other bottom surface is obtuse, thus resulting in an increase in strength of a ridge portion (a corner) defined by the other bottom surface and the slant surfaces. Therefore, for example, when the other (narrower) bottom surface is secured on a movable plate (diaphragm), the breakage or damage of ~~said~~the ridge portion caused by an external force or vibrations of the piezoelectric/electrostrictive element itself is avoided. When the other bottom surface of the piezoelectric/electrostrictive element is secured on the movable plate (diaphragm) by adhesive, a recess-shaped (*V*-groove shaped) gap defined by the movable plate and the slant surfaces of both the sides of the piezoelectric/electrostrictive element can be filled with the adhesive, thereby resulting in a further increase in force (bonding strength) which secures the piezoelectric/electrostrictive element to the movable plate. The existence of the adhesive in the recess-shaped gap offers the effect of avoiding removal of the piezoelectric/electrostrictive element from the movable plate even if the stress arising from a difference in thermal expansion between the piezoelectric/electrostrictive element and the movable plate is produced.

The paragraph beginning on page 6, line 20 has been amended as follows:

The piezoelectric/electrostrictive layers are decreased in width gradually in one of the directions of lamination. Thus, for example, when the external electrode layers, the piezoelectric/electrostrictive layers, and the internal electrode layers are laminated in a given order, it is possible to pile up the piezoelectric/electrostrictive layers on a backing layer stably. Therefore, when the external electrode layers, the piezoelectric/electrostrictive layers, and the internal electrode layers are laminated by printing using, for example, a screen printing method, the printing is achieved easily since a lower one of the piezoelectric/electrostrictive layers has an area greater than that of an upper one of the piezoelectric/electrostrictive layers. The screen printing method makes it possible to apply, for example, via a conductive paste, the external electrode layers to the slant surface (a side surface portion) of the laminate.

The paragraph beginning on page 6, line 9 has been amended as follows:

Both the external electrode layers formed on ~~said~~the side surface portions extend along the wider surface of said laminate, thereby ensuring a joint area (a pad portion) which establishes a joint of wires for applying a drive voltage to the external electrode layers or wires for detecting a produced voltage, which facilitates connection of the wires. Particularly, as described above, when the narrower bottom surface of the laminate is secured on the movable plate, it is possible to bond the wires on a sufficient area of the wider bottom surface. The width of one of the external electrode layers extending on the

wider bottom surface of the laminate is greater, thereby allowing the one of the external electrode layers to be used as a voltage applying electrode or a voltage detecting electrode.

The paragraph beginning on page 8, line 1 has been amended as follows:

The second feature of the invention lies in a piezoelectric/electrostrictive device in which a piezoelectric/electrostrictive element includes a substantially trapezoidal laminate having narrower and wider surfaces lying substantially in parallel to each other and first and second surfaces opposed to each other between the narrower and wider surfaces.~~,~~ ~~t~~The first and second surfaces are~~being~~ inclined at given angles with respect to one of the narrower and wider surfaces.~~,~~ ~~said~~ The trapezoidal laminate ~~being~~is made up of a plurality of piezoelectric/electrostrictive layers and a plurality of internal electrodes, each of which is disposed between an adjacent two of the piezoelectric/electrostrictive layers.~~,~~ ~~t~~The internal electrodes ~~being broken up~~are divided into a first and a second group, each of the first group internal electrodes lying over one of the second group internal electrodes through one of the piezoelectric/electrostrictive layers.~~;~~ ~~a~~A first external electrode is formed on the first surface of ~~said~~the laminate, and is~~said first external electrodes being~~ coupled to the first group internal electrodes.~~;~~ ~~and a~~A second external electrode is formed on the second surface of said laminate, and is~~said second external electrodes being~~ coupled to the second group internal electrodes. ~~and in which said~~ The piezoelectric/electrostrictive element is bonded to a surface of a movable plate on a side of the narrower surface of ~~said~~the laminate.

The paragraph beginning on page 10, line 11 has been amended as follows:

The third feature of the invention lies in a method of producing a piezoelectric/electrostrictive element including~~comprising~~ the following steps ~~of~~:

a first step of preparing a ceramic substrate having a given width;

a second step of forming a laminate on ~~said~~the ceramic substrate, ~~said~~the laminate being made up of ~~a~~ first and ~~a~~ second portions laid to overlap ~~each other~~one another;~~,~~

a third step of baking the ceramic substrate and the laminate at a given temperature; and

a fourth step of removing the laminate from the ceramic substrate;

the first portion of the laminate is formed using~~being made by~~ the following steps ~~of~~::

printing a first electrode layer and a second electrode layer on ~~said~~the ceramic substrate which are disposed at a given interval away from one another~~each other~~;

forming a piezoelectric/electrostrictive layer using a piezoelectric/electrostrictive paste on the first and second electrode layers so as to cover portions of the first and second electrode layers other than edge portions thereof lying outward in a widthwise direction of ~~said~~the ceramic substrate; and

forming a first electrode layer on an upper surface and a side surface of the piezoelectric/electrostrictive layer so as to establish an electric connection only with the first electrode layer lying immediately beneath the first electrode layer formed in this step.~~,~~

~~said~~The second portion of the laminate is formed~~being made~~ by performing the following set of steps a given number of times, which include:

forming a piezoelectric/electrostrictive layer using a piezoelectric/electrostrictive paste on an uppermost one of the first electrode layers, the piezoelectric/electrostrictive layer formed in this step having a width smaller than that of the piezoelectric/electrostrictive layer lying immediately beneath the piezoelectric/electrostrictive layer formed in this step;

forming a second electrode layer on an upper surface and a side surface of an uppermost one of the piezoelectric/electrostrictive layers so as to establish an electric connection only with the second electrode layer lying immediately beneath the second electrode layer formed in this step;

forming a piezoelectric/electrostrictive layer using a piezoelectric/electrostrictive paste on an uppermost one of the second electrode layers, the piezoelectric/electrostrictive layer formed in this step having a width smaller than that of the piezoelectric/electrostrictive layer lying immediately beneath the piezoelectric/electrostrictive layer formed in this step; <u>and</u>

forming a first electrode layer on an upper surface and a side surface of an uppermost one of the piezoelectric/electrostrictive layers so as to establish an electric connection only with the first electrode layer lying immediately beneath the first electrode layer formed in this step<u>.</u>~~; and~~

~~a third step of baking said ceramic substrate and said laminate at a given temperature; and~~

~~a fourth step of removing said laminate from said ceramic substrate.~~

VERSION WITH MARKINGS TO SHOW CHANGES MADE
Amended specification paragraphs

The paragraph beginning on page 12, line 8 has been amended as follows:

In the method of producing the thus constructed piezoelectric/electrostrictive element according to the third feature, it is possible to pile up the piezoelectric/electrostrictive layers by printing so that areas thereof decrease gradually, thus resulting in ease of manufacture. The piezoelectric/electrostrictive layers, the first electrode material layer, and the second electrode material layer may be formed ~~in~~using a printing method, thus allowing ~~the~~a piezoelectric/electrostrictive element to be produced which is higher in dimensional accuracy, ~~and~~ positional accuracy, ~~and~~ less susceptible to adverse effects, such shifting during transportation and deformation caused by the transportation, and eliminating the need for process of transporting and piling up the piezoelectric/electrostrictive layers, which avoids ~~the~~ breakage or damage of the piezoelectric/electrostrictive layers caused by handling thereof.

The paragraph beginning on page 12, line 23 has been amended as follows:

The formation of portions which become continuous external side surface electrodes on both sides of the laminate is achieved in sequence by repeating printing of the first and second electrode material layers, thus eliminating the need for a process of forming additional external side surface electrodes.

The paragraph beginning on page 13, line 15 has been amended as follows:

The fourth feature of the invention lies in a method of producing a piezoelectric/electrostrictive device in which a piezoelectric/electrostrictive element includes a substantially trapezoidal laminate having narrower and wider surfaces lying

substantially in parallel to ~~each other~~one another and first and second surfaces opposed to ~~each other~~one another between the narrower and wider surfaces.~~;~~ ~~t~~The first and second surfaces ~~being~~are inclined at given angles with respect to one of the narrower and wider surfaces.~~;~~ ~~said~~ The trapezoidal laminate ~~being~~is made up of a plurality of piezoelectric/electrostrictive layers and a plurality of internal electrodes, each of which is disposed between an adjacent two of the piezoelectric/electrostrictive layers.~~;~~ ~~t~~The internal electrodes ~~being~~are broken up into a first and a second group, each of the first group internal electrodes lying over one of the second group internal electrodes through one of the piezoelectric/electrostrictive layers.~~;~~ ~~a~~A first external electrode is formed on the first surface of ~~said~~the laminate~~, said first external electrodes being~~ and is coupled to the first group internal electrodes.~~;~~ ~~and~~ ~~a~~A second external electrode is formed on the second surface of ~~said~~the laminate~~, said second external electrodes being~~ and is coupled to the second group internal electrodes.~~;~~ ~~and~~ ~~t~~The piezoelectric/electrostrictive element is bonded to a surface of a movable plate by an adhesive.

The paragraph beginning on page 14, line 22 has been amended as follows:

The narrower bottom surface of the piezoelectric/electrostrictive element is bonded to the movable plate, so that angles which the side surface portions of the piezoelectric/electrostrictive element make with the movable plate will be obtuse, thus providing the effect of avoiding local breakage or damage of the piezoelectric/electrostrictive element. The same is true for a case where piezoelectric/electrostrictive elements are bonded at narrower bottom surfaces to ~~each other~~one another.

VERSION WITH MARKINGS TO SHOW CHANGES MADE
Amended specification paragraphs

The paragraph beginning on page 15, line 4 has been amended as follows:

Automatic positioning of the piezoelectric/electrostrictive element is achieved by setting a coefficient of viscosity of the adhesive applied on the surface of the movable plate to a given value to enable the filling with adhesive of the gaps (recesses) defined by the slants of the side surfaces of the piezoelectric/electrostrictive element and the movable plate~~ to be filled with the adhesive~~.

The paragraph beginning on page 18, line 24 has been amended as follows:

Fig. 33 is a side view which shows a combination of ~~illustrates~~ a movable plate positioning jig and an element positioning jig used in a production method of a piezoelectric/electrostrictive device according to the second embodiment of the invention;

The paragraph beginning on page 19, line 12 has been amended as follows:

Fig. 39 is an enlarged, ~~major part~~partial side view of a conventional piezoelectric/electrostrictive element.

The paragraph beginning on page 19, line 14 has been amended as follows:

DETAILED DESCRIPTION OF THE INVENTION~~EMBODIMENTS~~

A piezoelectric/electrostrictive element, a piezoelectric/electrostrictive device, and a production method thereof will be explained in detail with reference to embodiments as illustrated in the drawings. The attention should be paid to the fact that the drawings are schematic, and the thickness and a film thickness ratio of material layers are different from those in actual use~~ones~~. Practical thickness or dimensions should be decided with

reference to the following explanation. Of course, parts whose dimensional relation and ratio are different from ~~each other~~one another are included in the several drawings.

The paragraph beginning on page 19, line 25 has been amended as follows:

The piezoelectric/electrostrictive element and the piezoelectric/electrostrictive device according to the invention includes an element which converts electric energy into mechanical energy, or vice versa by ~~reverse~~ the reverse piezoelectric effect~~,~~ or the electrostrictive effect, or the piezoelectric effect and a device equipped with the same. ~~and~~ The piezoelectric/electrostrictive device of the present invention may be employed as passive elements such as acceleration sensors or impact sensors utilizing the piezoelectric effect, as well as active elements such as a variety of actuators or transducers, especially displacement elements using displacement by the reverse piezoelectric effect or the electrostrictive effect.

The paragraph beginning on page 20, line 13 has been amended as follows:

First, an outline of a structure of a piezoelectric/electrostrictive ~~elemnet~~element of this embodiment will be described using Figs. 1 to 4. The piezoelectric/electrostrictive element 10 of this embodiment, as shown in Fig. 1, includes, for example, four piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D, for example, three internal electrode layers 12A, 12B, and 12C interposed between an adjacent two of the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D.~~,~~ ~~and a~~A pair of external electrode layers 14 and 15 connect~~to which~~ the ~~external~~internal electrode layers 12A, 12B, and 12C ~~connect~~in an alternate manner alternately. The piezoelectric/electrostrictive

element 10 has a substantially trapezoidal laminated structure in which upper and lower opposed bottom surfaces are both rectangular.

The paragraph beginning on page 21, line 26 has been amended as follows:

As shown in Fig. 1, an area of one of the bottom surfaces (upper surface) *f1* of the piezoelectric/electrostrictive element 10 is wider than that of the other bottom surface (lower surface) *f2*. As shown in Fig. 1, the width of the wider bottom surface *f1* (i.e., the length in an arrow direction as expressed by *x* in the drawing) is *W1*, and the length thereof (i.e., the length in an arrow direction as expressed by *y* in the drawing) is *L1*. Fig. 2 is a plan view which shows the wider bottom surface *f1*. Fig. 3 is a bottom illustration of the piezoelectric/electrostrictive element 10 as viewed from ~~the side of~~ the narrower bottom surface *f2*. ~~The narrower bottom surface f2 of the piezoelectric/electrostrictive element 10 is illustrated in Fig. 3.~~ As shown in Fig. 3, the width of the bottom surface *f2* is *W2*, which~~that~~ is smaller than the width *W1* of the bottom surface *f1*. The length of the bottom surface *f2* is equal to the length *L1* of the bottom surface *f1*.

The paragraph beginning on page 21, line 15 has been amended as follows:

As can be seen from the bottom illustration of the piezoelectric/electrostrictive element in Fig. 3, both side edges of the bottom surface *f2* are located inward from both side edges of the bottom surface *f1* by the same distance *W3* and overlap with the bottom surface *f1* in a lengthwise direction. The piezoelectric/electrostrictive element 10, thus, has slant surfaces *f3* and *f4*, as shown in Figs. 1 and 3, formed on the sides thereof in the

direction *x*. The pair of slant surfaces *f3* and *f4* are inclined in a direction in which they approach each other from the wider bottom surface *f1* to the narrower bottom surface *f2*.

The paragraph beginning on page 21, line 24 has been amended as follows:

The external structure of the piezoelectric/electrostrictive element 10 has been explained above. Next, the structure and positional relation of parts making up the piezoelectric/electrostrictive element 10 will be explained in detail using Figs. 1 to 4. Fig. 4 is a cross-sectional view taken along~~on~~* section line *A-A* shown in~~on~~ Fig. 2.

The paragraph beginning on page 22, line 18 has been amended as follows:

Between the piezoelectric/electrostrictive layers 11A and 11B, the internal electrode layer 12A is disposed which extends from the slant surface *f3* ~~to~~toward the slant surface *f4*. The internal electrode 12A does not ~~reach~~contact the slant surface *f4*. Between the piezoelectric/electrostrictive layers 11B and 11C, the internal electrode layer 12B is disposed which extends from the slant surface *f4* ~~to~~toward the slant surface *f3*. The internal electrode 12B does not ~~reach~~contact the slant surface *f3*. Between the piezoelectric/electrostrictive layers 11C and 11D, the internal electrode layer 12C is disposed which extends, like the above described internal electrode layer 12A, from the slant surface *f3* ~~to~~toward the slant surface *f4*, and does not contact the slant surface *f4*. It is advisable that the end edges of the above described internal electrodes 12A and 12C on the side of the slant surface ~~*f4*~~*f3* lie at the same location as viewed on a plane and overlap vertically, however, the internal electrode layer 12C may be shorter in the *x* direction ~~along~~extending from the slant surface ~~*f4*~~*f3*.

The paragraph beginning on page 23, line 8 has been amended as follows:

Further, slant portions 14A and 15A of the external electrode layers 14 and 15 are formed on the slant surfaces *f3* and *f4*. In this embodiment, the width of the slant portion 14A (i.e., the length in a direction of slant surface inclination) is greater than that of the slant portion 15A. The slant portion 14A is, as shown in Fig. 4, so formed as to cover the whole of the slant surface *f4*, thereby establishing connection of the slant portion 14A of the external electrode layer 14 to the internal electrode layer 12B. ~~and~~ The slant surface portion 15A is formed to establish a connection of the slant portion 15A of the external electrode layer 15 to the internal electrode layers 12A and 12C. Specifically, the external electrode layers 15 and 14 are so constructed as to connect with the internal electrode layers 12A, 12B, and 12C alternately.

The paragraph beginning on page 23, line 20 has been amended as follows:

On an upper surface (i.e., an outer surface) of the widest piezoelectric/electrostrictive layer 11A, upper surface portions 14B and 15B of the external electrode layers 14 and 15 are, as shown in Figs. 1 and 4, formed which extend from *x*-direction side edges of the outer surface of the piezoelectric/electrostrictive layer 11A so as to approach ~~each other~~one another. The upper surface portions 14B and 15B of the external electrode layers 14 and 15 are separated from ~~each other~~one another on the side of one of the edge portions of the piezoelectric/electrostrictive element 10. Specifically, in this embodiment, the width (i.e., the length in the *x* direction) of the upper surface portion 14B of the external electrode layer 14 is greater than the width~~that~~ of the external electrode layer 15. The edge of the upper surface portion 14B of the external

electrode layer 14 on the side of the slant surface $f3$ lies at the same location as that of the edge of the above described internal electrode layer 12B as viewed on a plane, but however, it is not limited to ~~the same~~this location.

The paragraph beginning on page 24, line 9 has been amended as follows:

On a lower surface (i.e., an outer surface) of the narrowest piezoelectric/electrostrictive layer 11D, the lower surface portion 14C of the external electrode layer 14 is formed. The lower surface portion 14C ~~is so formed as to~~ extends from a lower edge of the slant surface 14A ~~to~~toward the slant surface $f3$. An edge of the lower surface portion 14C on the side of the slant surface $f3$ is ~~so~~ set ~~as~~ to lie at the same location as that of an edge of the internal electrode layer 12B as viewed on a plane, however, it is not limited to ~~the same~~this location.

The paragraph beginning on page 24, line 17 has been amended as follows:

In this embodiment, the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D are four layers. The internal electrode layers 12A, 12B, and 12C are three layers. The upper surface portion 14B and the lower surface portion 14C of the external electrode layer 14 are so arranged on the upper and lower surfaces of the piezoelectric/electrostrictive element 10 as to function as opposed electrodes, however, the number of the layers and the number of the internal electrode layers connecting with the external electrode layers 14 and 15, respectively, may be equal to or unequal number with respect to one another~~each other or not~~. The number of the electrode layers are determined in terms of relations to a drive voltage and the degree of displacement of a

movable plate, as will be described later. An increase in total number of the piezoelectric/electrostrictive layers will cause a driving force driving the movable plate on which the piezoelectric/electrostrictive element 10 is installed to be increased, thus enabling a greater displacement and result in an increase in rigidity of the piezoelectric/electrostrictive element 10, thereby increasing the resonance frequency, which allows the speed of a displacement operation to be increased easily.

The paragraph beginning on page 27, line 3 has been amended as follows:

The external electrode layers 14 and 15 ~~is~~are preferably made of metal which is solid at room temperature and excellent in conductivity. As such a metal, in addition to the above described platinum (Pt), one of aluminum (Al), titanium (Ti), chromium (Cr), iron (Fe), cobalt (Co), nickel (Ni), copper (Cu), zinc (Zn), niobium (Nb), molybdenum (Mo), ruthenium (Ru), palladium (Pd), rhodium (Rh), silver (Ag), tin (Sn), tantalum (Ta), tungsten (W), iridium (Ir), gold (Au), and lead (Pb) or an alloy thereof may be used. A cermet material in which the same material as that of the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D is dispersed in the above materials may be used.

The paragraph beginning on page 31, line 20 has been amended as follows:

In a case where the thus constructed piezoelectric/electrostrictive device 20 is used as an active device, wires 23 and 24 may be connected to the upper surface portion 14B of the external electrode layer 14 and the upper surface portion 15B of the external electrode layer 15 formed on the bottom surface *f1*, respectively, and to a voltage applying circuit 25. Such an active device may be employed as transducers, actuators, frequency domain

functional parts (filters), transformers, vibrators or resonators for communications or power sources, oscillators, or discriminators. The wires 23 and 24 are provided preferably by a flexible printed circuit (FPC), flexible flat cables (FFC), or bonding wires.

The paragraph beginning on page 41, line 21 has been amended as follows:

Next, a production method of the piezoelectric/electrostrictive element 10 according to the first embodiment will be described below using Figs. 12 to 24. The production method will be discussed while comparing and associating new reference numbers of respective material layers with reference numbers of the piezoelectric/electrostrictive element 10 that is a finished product as shown in Figs. 1 to 4. The method includes the following steps 1-12.

The paragraph beginning on page 46, line 10 has been amended as follows:

It is possible for the production method of the piezoelectric/electrostrictive elements 10 to ~~pile up~~stack the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D in the printing method so as to decrease in area gradually, thus resulting in ease of manufacture of the piezoelectric/electrostrictive elements 10. It is also possible to form the piezoelectric/electrostrictive layers 11A, 11B, 11C, and 11D and each electrode layer (i.e., the Pt film in this embodiment) in the printing method, thus eliminating the need for handling and transportation. This enables the manufacture of the piezoelectric/electrostrictive elements 10 that are higher in dimensional and positional accuracy without adverse effects such as deformation caused by the handling or the transportation.

VERSION WITH MARKINGS TO SHOW CHANGES MADE
Amended specification paragraphs

The paragraph beginning on page 55, line 11 has been amended as follows:

A production method of a piezoelectric/electrostrictive device which may be employed with the first and second embodiments will be described below using Figs. 28 to 33. The method includes the following steps A-E.

The paragraph beginning on page 55, line 24 has been amended as follows:

(C) The piezoelectric/electrostrictive element 10 is set on an element positioning plate 86. The element positioning plate 86 has formed therein a plurality of vacuum openings 87 for fixing in place~~sucking~~ the piezoelectric/electrostrictive element 10 by use of suction. The piezoelectric/electrostrictive element 10 is set so that the wider bottom surface *f1* may be fixed in place~~sucked~~ by the suction of vacuum openings 87. The element positioning plate 86 has formed therein guide holes 88 in which guide pins 84 are fitted when combined with the movable plate positioning jig 82. The element positioning plate 86 has also formed therein openings 89 for reception of the positioning pins 35 installed on the movable plate positioning jig 82.

The paragraph beginning on page 57, line 22 has been amended as follows:

It should be noted that the discussion and the drawings that are parts of the disclosure of the above described first and second embodiments of the invention do not limit the invention. From this disclosure, one skilled in the art will know alternative various forms of embodiments, embodiments, and working techniques.

The paragraph beginning on page 58, line 1 has been amended as follows:

For instance, the first and second embodiments refer to the cases where the number of the inner electrode layers are three and four, but ~~it~~ may be one, two or more, or five or more.